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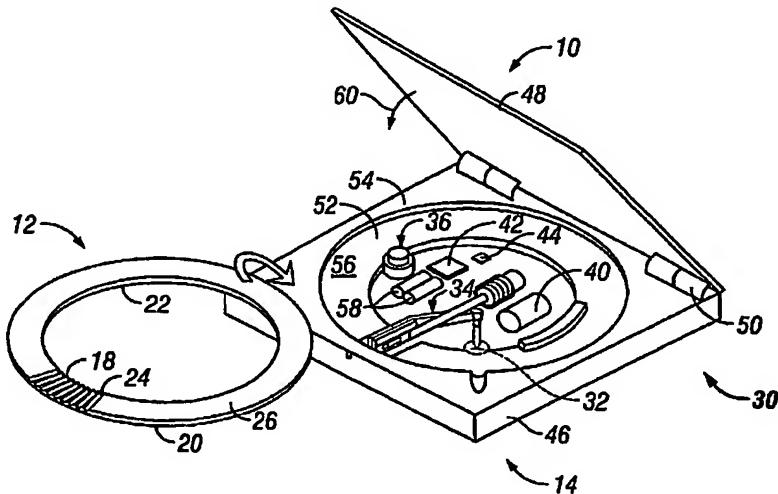
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[Continued on next page]

(54) Title: METHOD AND APPARATUS USING OPTICAL TECHNIQUES TO MEASURE ANALYTE LEVELS



(57) Abstract: A device (10) is provided for use with a tissue penetrating system and/or a metering device for measuring analyte levels. The device comprises a cartridge (12) and a plurality of analyte detecting members (742, 760, 808) mounted on the cartridge (12). The cartridge (12) may have a radial disc shape. The cartridge (12) may also be sized to fit within the metering device (10). The analyte detecting members (742, 760, 808) may be an optical system using fluorescence lifetime to determine analyte levels. In one embodiment, the device (10) may also include a fluid spreader (826) positioned over at least a portion of the analyte detecting members (742, 760, 808) to urge fluid toward one of the detecting members. A plurality of analyte detecting members (742, 760, 808) may be used. Each analyte detecting member may be a low volume device.

WO 2004/060446 A3



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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 21/76, 21/64, 27/00; C12M 1/34;
US CL : 422/58, 82.08, 98; 435/288.7; 600/573, 583, 584

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|------------------------------------------------------------------------------------|-----------------------|
| X | US 5,858,804 A (ZANZUCCHI et al.) 12 January, 1999, see description of figure 1b. | 1-4,15,16,18,24 |
| --- | | ----- |
| Y | | 30 |
| A | US 5,096,669 A (LAUKS et al.) 17 March 1992, see description of figure 1. | 1-40 |
| A | US 5,912,134 A (SHARTLE) 15 June 1999, see description of figure 2. | 1-40 |
| A | US 6,375,627 B1 (MAUZE et al.) 23 April 2002, see description of figures 3a,3b,4. | 25-27,32,33-35 |

Further documents are listed in the continuation of Box C.

See patent family annex.

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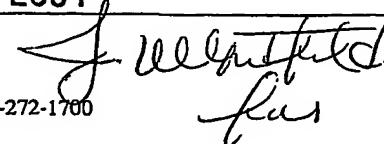
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